Section 1: Description

For optimal performance, the hydraulic fluid in the Hydraulic Power Unit reservoir should be inspected and replaced as needed. In addition, the oil filter should be replaced when replacing the hydraulic fluid. This document provides instructions for inspecting/replacing the hydraulic fluid and oil filter.

Section 2: Hydraulic Fluid Inspection

Materials/Tools Required

- Paper Towels
- Plastic Bags
- Pipette or Baster

Inspecting Hydraulic Fluid

It is recommended to inspect the hydraulic fluid **every six months**.

1. Locate and remove the fill cap on the Hydraulic Power Unit. If the Power Unit has an external oil filter, the fill cap will look like Figure 1A. If the Power Unit has an internal oil filter, the fill cap will look like Figure 1B. If an internal oil filter is present, remove the filter under the fill cap by pulling up on the two tabs at the top of the filter.

Fig. 1A

Fig. 1B

2. There are two methods for inspecting fluid:

    a. Tear off a strip of a white paper towel and dip it into the hydraulic fluid that sits in the reservoir beneath the opening of the fill cap.

    b. Using a pipette or baster, take a sample of the hydraulic fluid from the reservoir.

3. Compare the color of the fluid to the color chart below to determine if the fluid needs to be replaced.

Yellow	**Amber**	**Brown**
Fine as is.	Oil change recommended.	Oil change required.

4. Re-install the fill cap.

Section 3: Hydraulic Fluid & Oil Filter Replacement

Materials/Tools Required

- Hydraulic Fluid
- Oil Filter
- Drill Powered Transfer Pump or Hand Pump
- Adjustable Wrench
- Flashlight
- 5 Gallon Bucket (or two)
- Paper Towels
- Plastic Bags

Removing Hydraulic Fluid

1. With an adjustable wrench, disconnect the low-pressure hydraulic hose from the Power Unit and place into an empty 5 gallon bucket. If the Power Unit has an external oil filter, the low-pressure hose is connected to the fitting at the oil filter (Fig. 2A). If the Power Unit has an internal oil filter, the hose is connect to the fitting at the fill cap (Fig. 2B). **NOTE:** If an Elite Pool or optional Hydraulic Treadmill is present, the low-pressure hose on the Power Unit is connected to a Tee fitting. Remove the Tee from the fitting at the fill cap and place the whole assembly into the bucket .

Fig. 2A

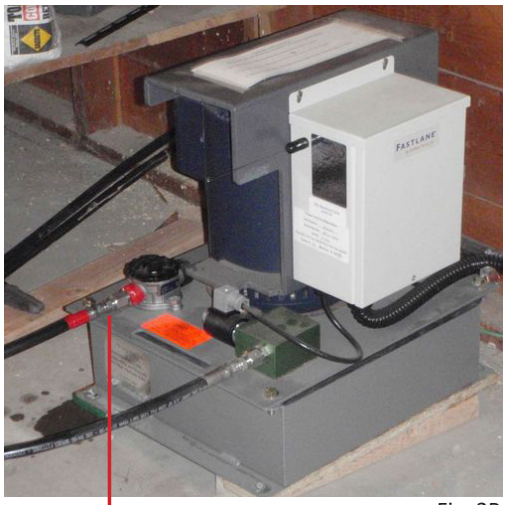

Fig. 2B

2. Start the Power Unit by pressing the air button or ON button on the wireless transmitter. Hydraulic fluid will pump out of the low-pressure hose and into the 5 gallon bucket. The system will shut itself off automatically when it detects a low fluid level, leaving fluid left in the reservoir.

3. TURN OFF POWER AT THE CIRCUIT BREAKER.

4. Remove the fill cap and fill screen (if present). If the Power Unit has an internal oil filter, remove it. Use a drill powered transfer pump or disposable hand pump to remove the remaining fluid. Tipping and propping the unit towards one corner will facilitate this.

5. Use a flashlight to visually inspect the inside of the reservoir. If the hydraulic pump inside the reservoir has a suction strainer, inspect that as well. If there is a substantial amount of debris in the reservoir or on the suction strainer (if present), the reservoir lid should be removed in order to further inspect and clean out debris.

    a. Remove bolts around perimeter of reservoir.

    b. With two people, lift the motor/reservoir lid off the reservoir. Take care not to bend or damage the float switch that is attached to the reservoir lid.

    c. Wipe out the reservoir. Remove and clean or replace the suction strainer (if present).

    d. Inspect the internal high pressure hose attached to the pump. If there are signs of degradation, it is recommended to replace the hose.

    e. Reinstall the reservoir lid.

Adding Hydraulic Fluid

1. Fill the Power Unit reservoir with hydraulic fluid according to the following:

    - **If your Power Unit has a glass sight tube on the exterior of the reservoir:** Add fluid until the level reaches the black line near the top of the sight tube (about 2/3 - 3/4 up the height of the tube).

    - **If your Power Unit has a dipstick on the underside of the fill cap:** Add fluid until the level reaches the mark indicating a 4 gallon level.

    - **If your Power Unit has an internal oil filter:** Add fluid until the level is within 2” (51mm) of the reservoir lid.

2. Reinstall the fill cap.

Purging System Of Residual Hydraulic Fluid

The hydraulic hoses and submerged hydraulic motor inside of the pool are still filled with old hydraulic fluid. The following steps will purge the system of the residual fluid in the hoses and motor.

1. Restore power to the Power Unit.

2. Place and hold the low-pressure hose into the 5 gallon bucket that has the old fluid. Start the Power Unit and let it run until the fluid coming out of the hose is the new, yellow hydraulic fluid. Immediately shut the system off when the new fluid presents itself.

3. TURN OFF POWER AT THE CIRCUIT BREAKER.

4. Top off the hydraulic fluid according to the filling instructions in the previous section.

Setting Proper Hydraulic Fluid Level

The following steps will ensure that you have the proper level of hydraulic fluid in your reservoir.

1. Place and hold the low-pressure hose into the 5 gallon bucket.

2. If the pool has a blue knob to adjust the speed of the current, turn the blue knob fully clockwise (fastest speed). Open the pool cover.

3. Start the Power Unit by pressing the air button or ON button on the wireless transmitter. Hydraulic fluid will pump out of the low-pressure hose and into the 5 gallon bucket. The system will shut itself off automatically when the float level switch inside the reservoir is tripped.

4. TURN OFF POWER AT THE CIRCUIT BREAKER.

5. Reconnect the low-pressure hydraulic hose and tighten.

6. Remove the fill cap and add 1 cup (250ml) of fluid to the reservoir. Reinstall the fill cap.

7. Restore power to the Power Unit and test the unit by turning it on. It should stay on continuously. If the unit doesn't turn on or turns on and then shuts off, TURN OFF POWER AT THE CIRCUIT BREAKER, and add another cup (250ml) of fluid to the reservoir tank. Restore power and test the unit.

Check with your local municipality or recycling center to see if the old hydraulic fluid can be recycled. The fluid is either **Mobile EAL 224-H** or **Fuchs Plantohyd 40N**. The fluid may also be discarded. If you have a suitable location, the fluid can simply be poured onto the ground. It is a vegetable-based formula and readily biodegradable (90% in 21 days).

Oil Filter Replacement Instructions

The oil filter should be replaced when the hydraulic fluid is replaced.

External Oil Filter

1. Unscrew the external filter counter-clockwise.
2. Screw on replacement oil filter.
3. Reinstall fill cap.
4. Dispose old filter. The fluid is non-toxic and bio-degradable.

Internal Oil Filter

1. Insert replacement oil filter into filter holder.
2. Reinstall fill cap.
3. Dispose old filter. The fluid is non-toxic and bio-degradable.